## How to configure Moxa NPort device for use with Nimbus and a GSM-terminal (ex MC-92)

Nimbus may use a terminal server device instead of a physical serial COM-port. There are several devices of various design and price (ex *Tibbo DS-1100, Westermo EDW-100, Lantronix UDS-1100* etc). All have similar setup using webinterface or bundled config-tools.

This document describe the *Moxa NPort 5110 device* (ex *Elfa article no 125-73-455* or *Dustin 5010262340*).

## Install the Moxa NPort Administration Suite

Altough the device may be configured using the webinterface it is easier to install the config tool and use it to setup the device.



You will find the software package on *www.moxa.com*. Select Support -> Select a Product Series -> NPort 5100 Series -> Driver.

Attach the Moxa device to you local subnet and power it on. Start the NPort Administrator.

🐇 NPort Administrator-Con	figuration						_ <b>D</b> X				
<u>File Function Configuration</u>	n <u>V</u> iew <u>H</u> el	Þ									
👖 🚅 💁 Exit Search Search	n IP Locate	Configure Web	I.								
Function		Configuration - 1 NPort(s)									
⊡- 🔊 NPort	No 🛆	Model	MAC Address	IP Address	Server Name	Status					
Conriguiation		NPort 5110	UU:90:E8:5A:3E:FF	192.168.127.254	NP5110_2241						
Message Log - 1 Monitor Log - 0											
No Time		Description									
1 1/30/2017 3.0	2:18 PM	Found NPort(s): 1									
Now: 1/30/2017 3:02:25 PM											

Select *Search* to find your device. Double-click the device.

*Note:* If the device is password protected (status is *Lock*) you will get a message saying *Target is password protected. Please* [Unlock] first. If this is the case, right-click the device and select Unlock. The default password is *moxa*.

Model Name	Accessible IPs	Auto Warning	IP Address Rep	oort Password
NPort 5110	Basic	Network	Serial	Operating Mode
MAC Address 00:90:E8:5A:3E:FF	Modify IP Address	192.168.123.7	7	
Serial Number 2241	Modify Netmask	255.255.255.0		
Firmware Version Ver 2.5	Gateway IP Configuration DNS Server 1	Static	<b>_</b>	
System Uptime 0 days, 01h:41m:23s	DNS Server 2			
	I Modily	🔽 Enable SNMP		
	Community Name	public		
	Location			
	Contact			

Select the *Network* tab. Check the *Modify* box and enter the appropriate *IP address* settings.

Model Name	Acces	sible IPs	Auto Warning	IP Ad	Idress Report	Password	
NPort 5110	Bas	ic	Network	Senal	Ope	rating Mode	
MAC Address		<ul> <li>Modify</li> </ul>					
00:90:E8:6B:5C:11	Po	ort Alias	Sel	tings			
Serial Number 9000	1		115	5200,N,8,1,No	o flowetrl		
Firmware Version Ver 2.9	Seria	al Settings					
System Uptime O days, 00h:03m:01s		−1 Port(s) Sel □ Apply ( Port Alias	ected. 1st port is Po port alias to all selec	ort 1			
		Baud Rate	115200	•	Flow Control	None	•
		Parity	None	•	FIFO	Enable	•
		Data Bits	8	•	Interface	RS-232	•
		A. A.					

Select the Serial tab. Check the Modify box and enter the appropriate Serial settings.

Set the NPort device to use:

Baudrate:	115200
Parity:	None
Databits:	8
Stopbits:	1
Flow control:	None
FIFO:	Enable
Interface:	RS-232

If you experience problems, try with Baudrate 9'600 bps

Configuration	×
Information Model Name NPort 5110 MAC Address 00:90:E8:B2:EB:4F	Accessible IPs Auto Warning IP Address Report Password Basic Network Serial Operating Mode
Serial Number 4746	Operating Mode X
Firmware Version Ver 2.10	1 Port(s) Selected. 1st port is Port 1 Operating Mode TCP Server Mode
System Uptime 0 days, 00h:09m:50s	TCP Server         TCP Server Mode Settings         Local TCP Port       4001         Command Port       366         Max Connection       4         Iick the '       Inactivity Timeout
	Data Packing (Optional)
	Delimiter 1       00       (0-ff, Hex)       Force Tx Timeout       0       (0-65535 ms)         Delimiter 2       00       (0-ff, Hex)       Packing Length       0       (0-1024 bytes)         Delimiter Process       Do Nothing       Image: Construction of the second seco
	OK X Cancel

Selct the Operating Mode tab, check the Modify box and select Settings. Select Operating Mode - TCP Server Mode and set Max Connection to 4

*Nimbus Alarm Server* could also use the *Real COM Mode* (virtual COM-port) but it is more straightforward to use pure TCP/IP communications.

*Note*: To ensure some sort of security you should at least password protect the device using the *Password* tab. To further increase security you could disable the web console and telnet functionality in the *Basic* tab. There is also a possibility to ensure that only the Nimbus server have access to the device using the *Accessible IP's* tab.

Select *Ok* twice and the device will be configured and restarted with the new settings.

If the IP was changed and the new settings belong to another subnet it may not be able to use until installed on the correct subnet.

Now the device will provide a remote serial port at TCP port 4001. The device will act as socket server. If there are any firewalls between the Nimbus server and the device they must be configured appropriate. This also include the servers' built-in windows firewall.

## **Configure Nimbus Alarm Server**

Run Nimbus Explorer. It should always be run as Administrator.

Select *Setup* - *Receiver Type Setup*. Find the appropriate GSM-terminal, in the below example it is *MC Tech MC92*.

ottagartyper		- <u>I</u> nsi	tällningar	
+ Fax	<u>^</u>		Communication basics	
+ Nimbus			Comm Method	TCP (client)
+ Other			TCP	
+ Pager			ServerAddress	192.168.123.77
			ServerPort	4001
		Ξ	General	
GSM Modem			Retries	0
- Cinterion			Delay (seconds)	5
- E Comlink			Conf.timeout (sec)	20
- Datecs			SMSC Number	
- 🕀 Falcom	-		PIN	
-++ Fargo			Initstring	ATZ
-++ Huawei			Alarmformat	[alarmdate] [alarmtime][13][10][s
+ Insys				
- MC Technologies				
<ul> <li>MC Tech MC-89</li> </ul>				
MC Tech MC-92				
- 🛨 Moxa				
- NavigateWorx				
C Nakia	×	P P	vancerade installningar AVDr	yt verkstall UK

Change *Comm Method* to *TCP* (*client*) and enter the Moxa device IP address as *ServerAddress*. Set the server port to 4001.

Number of *Retries* defaults to 0, which means Nimbus will only try to send the SMS once. You should have at least 2 retries. While testing the configuration 0 retries is of course ok. Leave all other fields as is.

Note: The SMSC field should always be empty or Nimbus will overwrite the default Service Center number pre-programmed on the SIM.
 The PIN-code should always be removed from the SIM. Se separate instructions (Nimbus\_GSM-modem\_ComLink\_iModem.pdf).

Select Ok.

Nimbus Explorer 3.00.08 - <no name=""> / [no users]</no>					- 0	X	
File Setup Log							
🗳 🚺 🚨 🕭 🚳 🧟 🟟 🖾							
Contraction in the second seco	Nimbu	is - Debug					×
	File Filt	er					
🗞 Nimbus - Send Text Message 📃 💷 🔀		Source/D	Time	Data			
Send	🗲 BX	Receiver	15:11:38.336	AT&D0<13><13><10>			
	🗲 RX	Receiver	15:11:38.336	OK<13><10>			
Heceivers	NX 🔶	Receiver	15:11:38.336	AT+CMGF=1<13>			
Tomas	🗲 RX	Receiver	15:11:38.398	AT+CMGF=1<13><13><10>			
	🖌 🗲 RX	Receiver	15:11:38.398	OK<13><10>			
	🔿 TX	Receiver	15:11:38.398	AT+CSMP=17,169,0,0<13>			
	🛛 🗲 RX	Receiver	15:11:38.461	AT+CSMP=17,169,0,0<13><13><10>			
	🛛 🗲 RX	Receiver	15:11:38.461	OK<13><10>			
	🏓 TX	Receiver	15:11:38.461	AT+CPMS="MT","MT","MT"<13>			
	🖌 🗲 RX	Receiver	15:11:38.523	AT+CPMS="MT","MT","MT"<13><13>	<10>		
	🗲 RX	Receiver	15:11:38.523	+CPMS: 1,50,1,50,1,50<13><10>			
	e RX	Receiver	15:11:38.523	<13><10>0K<13><10>			
	🄿 TX	Receiver	15:11:38.523	AT+CSCS="GSM"<13>			
	e RX	Receiver	15:11:38.586	AT+CSCS="GSM"<13><13><10>			
	← BX	Receiver	15:11:38.586	OK<13><10>			
	TX 🗧	Receiver	15:11:38.586	AT+CNMI=2,1,0,0,1<13>			
	E BX	Receiver	15:11:38.648	AT+CNMI=2,1,0,0,1<13><13><10>			=
	E BX	Receiver	15:11:38.648	UK<13><10>			
		Heceiver	15:11:38.648	AT+UMGD=1<13>			
	E BX	Receiver	15:11:38.710	AT+LMGD=T <t3><t3><t0></t0></t3></t3>			
	TV	Heceiver	15:11:38.710	UK<13><10>			
test		Receiver	15:11:33.272	AT+UMG5="0709421013"<13>	•		
1631	E BX	Receiver	15:11:39.334	AT+UMG5="0709421013"<13><13><1	U>		
	TY BX	Receiver	15:11:39.334	>			
		Receiver	15:11:33.334	test(2b)			
		Receiver	15:11:33:337	(ESIC202 210x 210x 20MCC: 1210x 210x			
		Receiver	15-11-41-043	<132<102±00003.1<132<102			
		Receiver	15/11/41 643	AT+CMGD=1/125			
	E BY	Beceiver	15:11:41.045	AT+CMGD=1/13//13//10			
	€ BX	Receiver	15:11:41.706	OK<13><10>			-

Now create a receiver (if not already done) and use *Send Text Message* to ensure it works properly. The *Log -> Show Debug* window would show something similar to the above info.



Here is a configuration using *Moxa NPort 5110* and a *MC92 terminal*. DIN-mounting kits are provided with both devices.